June 16, 2021

The Honorable Public Utilities Commission
of the State of Hawaii
Kekuanaoa Building, First Floor
465 South King Street
Honolulu, Hawaii 96813

RE: Docket No. 2021-0024: Potential Solutions to Ensure System Reliability, Reduce Fossil Fuel Use, and Minimize Cost Impacts Associated with the AES Barbers Point Coal Plant Retirement

Dear Commissioners:

AES Hawaii, LLC was recently approached by Mr. Scott Glenn, Chief Energy Officer of the Hawaii State Energy Office and Chair of the Powering Past Coal Task Force, regarding potential options to reliably and cost-effectively support the transition of Oahu to 100% renewable energy. Additionally, AES understands that the Commission has solicited feedback from interested stakeholders in the above-referenced docket regarding system reliability and costs of the Hawaiian Electric Company, Inc.'s ("Hawaiian Electric") transition plans for the September 1, 2022 retirement of the AES Barbers Point Coal Plant ("AES BP")[1] – the largest power generating unit on Oahu – as well as raised the concern that until large renewables can be brought online in the future, the 135 megawatt ("MW") Kapolei Energy Storage ("KES") standalone battery will largely be charged with electricity produced by oil-burning power plants such that "we're going from coal to oil" through at least 2024 and possibly longer.[2]

At the request of Mr. Glenn, AES is putting forth the below option and potential solution for the Commission's consideration. The Commission stated that its primary objective in opening the above-referenced proceeding was "to transparently review and track the status of current projects, identify near-term interconnection process improvements to facilitate renewable projects under development, and elicit the best solutions to ensure a cost-effective retirement of the AES [BP] Plant . . . that maintains system reliability."[3] Further, the Commission highlighted the "serious situation that is developing as a result of the retirement of the AES [BP] coal plant next year," and emphasized its responsibility "for ensuring consumers are provided essential utility services in a *safe, reliable, economical, and environmentally sound manner*."[4]

AES shares Hawaii's vision for a 100% renewable energy future. We have maintained a significant presence in Hawaii with AES BP for nearly 30 years, providing approximately 20% of Oahu's electricity needs, and are now working to accelerate and support Hawaii's transition to a carbon-free energy future with renewable projects across the Hawaiian Islands totaling over 200 MW of solar, storage and wind resources in operation or under contract, with 102.5 MW of Stage 1 and 37 MW of Stage 2 projects. This

[1] See Docket 2021-0024, Order No. 37624 Opening the Docket, issued February 11, 2021, at 5-6 ("This docket is for planning and information-gathering purposes only, so the Commission does not intend to solicit interveners or participants in the docket, but instead will allow any interested stakeholder to file comments and participate in future status conferences regarding Hawaiian Electric's plans.").
[2] Docket 2021-0024, March 16, 2021 Status Conference, available at https://www.youtube.com/watch?v=CdhsPQiAjqI at 2:40 and 2:48.
[3] See Docket 2021-0024, Order No. 37624 Opening the Docket, issued February 11, 2021, at 4 (footnote omitted and emphasis added).
[4] See Docket 2020-0136, Order No. 37784, issued May 13, 2021, at 20.

commitment to accelerating the transition to a cleaner energy future is at the core of AES' purpose and values. We have taken significant steps globally to accelerate the deployment of renewable technology and reduce our CO_2 footprint. AES is the first US-based energy company to disclose its portfolio's resilience consistent with the Task Force on Climate-related Financial Disclosures' (TCFD) recommendations and just recently announced our commitment to net zero carbon emissions from electricity by 2040. We have reduced our coal-fired generation to 25% of total generation volume (proforma for asset sales and retirements announced in 2020) and are on track to further reduce our coal-fired generation to less than 10% by year-end 2030.[5] We are actively growing our renewable portfolio, adding approximately 3 to 4 GW per year.

We are committed to accelerating the future of energy and achieving a carbon-free energy future, which is why ensuring grid reliability and a seamless, cost-effective transition is important for Hawaii as well as for AES. AES seeks to assist in ensuring a responsible and reliable transition to a 100% renewable energy future. At the request of Mr. Glenn and the Commission's invitation for comment and/or proposed solutions, this letter is intended to provide an option that will help maintain system reliability and enhance grid services, reduce reliance on fossil fuels, minimize financial impacts to Oahu's customers, and help ensure the state's responsible transition to a 100% renewable energy future.

Immediately Explore the Conversion of the AES BP Plant to Operate on Renewable Biomass

Mr. Glenn recently approached AES and inquired about the feasibility of converting the AES BP plant to operate using renewable biomass. Biomass constitutes a renewable source of energy under Hawaii Revised Statutes ("HRS") § 269-91. AES and Hawaiian Electric had previously explored this option in 2018[6] and AES has revisited the expected costs to operate on biomass. AES is willing to more fully explore such an option should the Commission and the State Energy Office desire to rely less on fossil fuel oil to charge the KES standalone and instead rely on renewable biomass.

As we consider options for Oahu to successfully transition to a 100% renewable energy future, one way to do so is to use the AES BP facility to produce electricity from renewable biomass for a period of years until such time a sufficient quantity of alternative renewable energy resources can successfully be installed on the island. Depending on the length of time biomass would be expected to be used, AES could consider different conversion options and different power purchase agreement ("PPA") terms. We expect such a biomass project could support Oahu's needs for a successful energy transition, and at a lower cost to consumers. Our current all-in cost estimates to operate on biomass are between approximately 0.18 – 0.20 cents/kwh, subject to additional engineering work, update in equipment pricing, availability and cost of biomass pellets, permitting costs and timeline, and the expected capacity factor, as well as the Commission-approved PPA terms between Hawaiian Electric and AES.

Conversion of the AES BP plant to operate on biomass could provide a variety of meaningful benefits including:

- Providing a ***dispatchable*** renewable energy resource intended to provide firm renewable

[5] Proforma based on annual generation in MWh from the portfolio as of, or expected by, the relevant date, adjusted for: (i) (+) generation from new assets added to the portfolio; and (ii) (-) actual generation from announced asset sales or retirements.

[6] See Docket 2018-0090, Application for Approval of Power Purchase Agreement Amendment No. 4 with AES Hawaii, Inc., filed April 20, 2018.

energy, maintain system reliability, and enhance grid services, which could be available as early as Q1 2023;

- Leveraging the existing infrastructure of the AES BP plant, which minimizes interconnection costs and associated timeline while also minimizing the use of scarce land space on Oahu for renewable resources[7]; and
- Providing a portfolio of renewable energy resources to limit dependency on primarily a single resource type, which also enhances reliability.

To make such a biomass option a reality for Q1 2023, AES would need to start now on items such as:

- Engineering to determine the specific modifications necessary to support biomass operations and the estimated EPC cost;
- Expedited environmental permitting;
- Biomass supply agreements;
- A waiver from the competitive bidding process, negotiation of a PPA, and Commission approval of such PPA; and
- Construction of necessary modifications and testing.

AES is willing to more fully explore such an option should this be the desire of the Commission and the State Energy Office. However, based on our work to date, we would need an affirmative indication to begin to explore this option in earnest to make it a reality for Q1 2023. This option would require a waiver from the Commission's Competitive Bidding Framework ("Framework") to undertake immediate capital investments, improvements, and arrangements necessary for biomass use.[8] The conversion would require several months of lead time to make the necessary arrangements to source and prepare the facility to operate on imported biomass pellets after January 1, 2023. Going through a multi-year competitive bid solicitation and selection process is not feasible under these time-sensitive circumstances.

We believe that under these circumstances, Hawaiian Electric would have a strong basis in support of a waiver from competitive bidding under the Framework. A waiver would be appropriate if "*competitive bidding will unduly hinder the ability to add needed generation in a timely fashion"* or "*when more cost-effective or better performing generation resources are more likely to be acquired more efficiently through different procurement processes*" or "*the acquisition of near-term power supplies for short-term needs*" or "*the acquisition of power from a non-fossil fuel facility . . . that is being installed to meet a governmental objective*" or "*the acquisition of power supplies needed to respond to an emergency situation*," for example. Further, the Commission may waive the Framework or any part thereof upon a showing that the waiver "*will likely result in a lower cost supply of electricity to the utility's general body of ratepayers, increase the reliable supply of electricity to the utility's general body of ratepayers, or is otherwise in the public interest*."

Under the circumstances here, competitive bidding would "unduly hinder the ability to add needed generation in a timely fashion," the need to acquire "near-term power supplies for short-term needs," and the need to acquire "power supplies . . . to respond to an emergency situation." In addition,

[7] It would take more than 3,000 acres of conventional solar technology to provide as much renewable energy as a 180 MW biomass plant.

[8] A conversion of the fuel source from coal to biomass would also be subject to any necessary air permit modifications or amendments.

the use of biomass on a temporary basis to produce electricity and ensure system reliability until other renewable energy projects become available would represent "the acquisition of power from a non-fossil fuel facility . . . that is being installed to meet a governmental objective," whereby the governmental objective is the end of using coal to generate energy in Hawaii and the temporary use of biomass to serve as a transition to other renewable energy resources currently under development. Finally, the use of biomass "will likely result in a lower cost supply of electricity to the utility's general body of ratepayers, increase the reliable supply of electricity . . . or is otherwise in the public interest," given the variable cost of oil-fired electricity combined with the cost of the KES standalone battery,[9] and given the increased capability and reliability of firm biomass as compared to variable renewable sources of energy.[10]

If there is a desire to explore a biomass option and the ability to use the existing infrastructure at the AES BP plant to support the energy transition, we suggest a corresponding extension of the current AES BP PPA for up to 4 months to enable a safe and reliable transition without interruption to service. This "insurance" would provide Oahu consumers with a lower cost solution, as well as ensure that the transition to biomass can be done with minimal operational and cost impacts. An up to 4-month extension does not conflict with HRS § 269-48[11], and could provide the following benefits:

- Allow sufficient time to explore the biomass option, to leverage the existing infrastructure of the AES BP plant, and to provide dispatchable renewable generation to support the energy transition;
- Enhance system reliability by increasing reserve margins, and mitigating impacts from expected delays in the GCOD for the KES standalone battery project from June 2022 to October or December 2022[12];
- Provide a lower cost solution for Oahu customers by an estimated $2 million per month (difference between all-in costs for AES BP and fuel only costs for oil-fired generation);
- Enable a more cost-effective biomass option by minimizing operational costs associated

[9] Note that the cost of oil-fired electricity may cost ratepayers up to 13% more if routed through the KES standalone battery due to round-trip electrical efficiency losses – i.e., the percentage of electricity loss between energy charged to the battery vs energy discharged from the battery – which according to the Kapolei Energy Storage PPA is allowed to reach as high as 13% energy loss. See Docket 2020-0136 Application, filed September 15, 2020, Exhibit 1 PPA at Article 4.6(a). In other words, if the standalone battery is allowed to discharge only 87% of the amount of electricity put into it, that represents a potentially 13% higher cost for the electricity used to charge the battery – i.e., the variable cost of fossil electricity plus up to 13%.

[10] Including the ability to use biomass energy directly to ratepayers and bypassing the KES standalone battery, avoiding unnecessary round-trip electrical efficiency losses.

[11] HRS § 269-48 was recently enacted by the Legislature to prohibit any *new or renewed PPA* that proposes to use coal to generate electricity or *modification of a PPA* that proposes to extend the term or *increase the amount of generation*. HRS § 269-48 states:

> Beginning after June 30, 2020, the Public Utilities Commission shall not approve:
>
> (1) Any new or renewed power purchase agreement that proposes to burn or consume coal to generate electricity; or
> (2) A modification of a coal power purchase agreement that proposes to extend the term or increase the amount of generation that is allowed to be produced under the existing agreement.

[12] As well as mitigate impacts of any potential delays from other renewable projects.

with a prolonged shut-down period for AES BP; and

- Allow for additional flexibility in generation outage planning and maintenance, potentially providing cost savings and reliability enhancements.

The current PPA, approved by the Commission, includes an "evergreen" provision at Section 2.6(C) that allows for a month-to-month extension of the PPA for so long as the parties are "actively negotiating for *the purchase of the Facility* or *the Net Electric Energy Output of the Facility*" in good faith. Specifically, Section 2.6(C) of the PPA states:

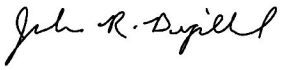
> Upon expiration of the Term, and any extensions thereof the parties hereto shall no longer be bound by the terms and conditions of this Agreement, except to the extent necessary to enforce the rights and obligations of the parties arising under this Agreement before the end of the Term. However, should the original Term end with the parties hereto actively negotiating for the purchase of the Facility or the Net Electric Energy Output of the Facility, then such Term shall be automatically extended on a month-to-month basis under the same terms and conditions as contained in this Agreement for so long as said negotiations continue in good faith. The month-to-month Term extensions shall end sixty (60) days after either party notifies the other in writing that said negotiations have terminated.

If Hawaiian Electric and AES are in active negotiations either to purchase the Facility or for the Net Electric Energy Output of the Facility under a biomass conversion, this option would avoid a conflict with HRS § 269-48. As the "evergreen" provision is part of the current PPA already approved by the Commission, the automatic month-to-month extension does not require a new, renewed, or modified PPA and it does not propose to extend the term *beyond* what was already contemplated in the current PPA (as automatic month-to-month extensions under limited circumstances is already contemplated). If Hawaiian Electric and AES were in active negotiations for either: (1) the purchase of the Facility, or (2) the Net Electric Energy Output of the Facility (to evaluate a biomass conversion, for example), this would be a viable option.

This up to 4-month period would support local reliability with the uncertainty surrounding the GCOD of the KES project, provide a lower cost solution for Oahu customers, and allow time to evaluate the conversion of the AES BP plant to operation on biomass.

Our purpose at AES is aligned with that of Hawaii, to transition to a 100% renewable energy future. We must successfully navigate this transition to ensure that customers are provided essential utility services in a *safe, reliable, economical, and environmentally sound manner.* We offer this biomass proposal in the spirt of achieving these goals for Oahu. AES is fully committed to supporting the state of Hawaii in successfully achieving its transition to 100% renewable energy. We are ready and willing to discuss this biomass conversion option more fully with the Commission and the State Energy Office and to undertake a biomass conversion assessment should there be support for such an option. However, we must emphasize that time is running out to consider such an option, and respectfully request that any decision regarding whether to proceed with a biomass conversion be made as expeditiously as possible.

Sincerely,



John R. Bigalbal
President and Chief Operating Officer
AES Hawaii, LLC

cc: Scott Glenn, HSEO
Scott Seu, Hawaiian Electric
Dean Nishina, Division of Consumer Advocacy

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